

AMENDMENTS TO THE CLAIMS

1. – 2. (Canceled)

3. (Currently Amended) A process of amplifying Salmonella gene invA mRNA having a specific sequence, wherein a specific sequence of comprising
obtaining a sample comprising Salmonella gene invA mRNA ~~present in a sample is~~
~~used as a template for synthesis of a~~
synthesizing cDNA employing an RNA-dependent DNA polymerase resulting in an
RNA/DNA hybrid,
digesting the RNA of the ~~formed~~ RNA/DNA hybrid ~~is digested by~~ with Ribonuclease
H to produce a single-stranded DNA,
~~producing said single-stranded DNA is then used as a template for production of a~~
double-stranded DNA having a promoter sequence capable of transcribing RNA comprising
said specific sequence or a sequence complementary to said specific sequence employing a
DNA-dependent DNA polymerase, wherein said single-stranded DNA is the template for said
producing and wherein said double-stranded DNA produces an RNA transcription product in
the presence of an RNA polymerase, and
synthesizing cDNA comprising annealing an oligonucleotide primer pair composed of
the sequence of SEQ ID NO: 4 and SEQ ID NO: 23 to said RNA transcription product ~~is then~~
~~used as a template for cDNA synthesis and amplifying said cDNA by~~ employing said RNA-
dependent DNA polymerase, ~~the amplification process being characterized by employing a~~
~~first oligonucleotide capable of specifically binding to Salmonella gene invA mRNA and~~
~~comprising at least 10 contiguous bases of any of the sequences listed as SEQ. ID. Nos. 1 to~~
~~12 and a second oligonucleotide comprising at least 10 contiguous bases of any of the~~

~~sequences listed as SEQ. ID. Nos. 19 to 23 and having a sequence homologous to a portion of the Salmonella gene invA mRNA sequence to be amplified, where either said first or second oligonucleotide primer includes said an RNA polymerase promoter sequence at the 5' end.~~

4. (Canceled)

5. (Currently Amended) The process according to claim 3 ~~or 4~~, which is a detection method, wherein said ~~amplification process is carried out~~ amplifying is performed in the presence of an oligonucleotide probe ~~capable of specifically binding to~~ which has a sequence that is complementary to at least a portion of the RNA transcription product resulting from said amplification and labeled with an intercalator fluorescent pigment, and changes in the fluorescent properties of the reaction solution is measured, with the proviso that the labeled oligonucleotide has a sequence different from those of the first oligonucleotide and the second oligonucleotide in the sequence.

6. (Currently Amended) The detection method according to claim 5, ~~characterized in that wherein~~ said probe is designed so as to complementarily bind to at least a portion of the sequence of said RNA transcription product, and the fluorescent property changes relative to that of a situation where a complex formation is absent.

7. (Currently Amended) The detection method according to claim 6, ~~characterized in that wherein~~ said probe for detecting said invA mRNA comprises at least 10 contiguous bases of SEQ. ID. No. 28 or its complementary sequence.

8. (Canceled)

9. (New) The process of claim 3, wherein said annealing is at a temperature ranging from 35 to 50°C.

10. (New) The process of claim 3, wherein said amplifying said cDNA is at a temperature ranging from 35 to 50°C.

11. (New) The process of claim 10, wherein said amplifying said cDNA is at a constant temperature.

12. (New) The process of claim 3, wherein the activity corresponding to said RNA-dependent DNA polymerase, said DNA-dependent DNA-polymerase, and said ribonuclease H are each exhibited by the same enzyme.

13. (New) The process of claim 12, wherein said enzyme is AMV reverse transcriptase.

14. (New) The process of claim 3, wherein said RNA polymerase is a T7 phage RNA polymerase or a SP6 phage RNA polymerase.

15. (New) The detection method according to claim 5, wherein said intercalator fluorescent pigment is bonded to a phosphorus atom in the oligonucleotide through a linker.

16. (New) The detection method according to claim 5, wherein said oligonucleotide probe is modified at the 3' hydroxyl group such that extension from said probe is inhibited.

17. (New) The detection method according to claim 16, wherein said oligonucleotide probe is modified at the 3' hydroxyl group by addition of a glycolic acid.

18. (New) The detection method according to claim 7, wherein said oligonucleotide probe is modified at the 3' hydroxyl group such that extension from said probe is inhibited.

19. (New) The detection method according to claim 18, wherein said oligonucleotide probe is modified at the 3' hydroxyl group by addition of a glycolic acid.

SUPPORT FOR THE AMENDMENTS

Claims 1, 2, 4, and 8 have been canceled.

Claims 3 and 5-7 have been amended.

Claims 9-19 have been added.

The amendment of Claims 3 and 5-7 is supported by the corresponding claims as originally presented and the specification, for example at page 3, line 17 to page 5, line 37. New Claims 9-11 are supported by the specification as originally filed, for example at page 6, lines 1-25. New Claims 12-13 are supported by the specification as originally filed, for example at page 7, line 32 to page 8, line 1. New Claim 14 is supported by the specification as originally filed, for example at page 8, lines 2-6. New Claim 15 is supported by the specification as originally filed, for example at page 8, line 26 to page 9, line 4. New Claims 16-19 are supported by the specification as originally filed, for example at page 9, line 5-16.

The specification has also been amended at page 3, line 17 to page 5, line 37 to remove reference to the "claims".

No new matter has been added by the present amendments.